

### **REMARKS**

Claims 26-50 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **RESPONSE TO APPLICANT'S ARGUMENTS/AMENDMENTS**

The Examiner has requested an explanation of how features of the claims are supported in the disclosure. Applicant respectfully submits that the amendment of the claims has changed a number of the elements mentioned by the Examiner. Applicant nevertheless addresses below several of the Examiner's questions stated in the Final Office Action.

### **DRAWINGS; SPECIFICATION**

The Examiner has objected to the drawings and specification. Applicant respectfully submits that the objections are rendered moot by the amendment of the claims as discussed below. Accordingly Applicant respectfully requests that the objections be withdrawn.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 26-50 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

Claims 26-50 are amended. Support for the amendments can be found throughout the application, drawings and claims as originally filed, and, as such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

Claim 26 is amended to recite "...using a sensor mounted on a platform, acquiring an image of a scene and at least one sensor parameter that indicates a perspective of the sensor relative to the scene; determining a footprint of the sensor relative to a coordinate system associated with a reference image database and a digital elevation database, the footprint including at least a portion of the scene in the sensor image; accessing the digital elevation database to obtain a reference digital elevation model geocoded in the coordinate system and whose geographic extent encompasses an area that includes the sensor footprint; accessing the reference image database to obtain a reference image geocoded in the coordinate system and that encompasses an area that includes the sensor footprint; generating a synthetic 3-D model of an area around a center of the scene by combining the geocoded reference digital elevation model and the geocoded reference image such that each pixel of the geocoded reference image is associated with an elevation from the geocoded reference digital elevation model; transforming the synthetic 3-D model into a synthetic perspective image of the scene, the transforming based on a type of the sensor and the at least one sensor parameter; and registering the sensor image of the scene with the synthetic perspective image to geocode the sensor image using a mutual information model; said method performed by one or more processors."

Claim 26 as amended is supported in the disclosure, for example, as follows:

*“...using a sensor mounted on a platform, acquiring an image of a scene and at least one sensor parameter that indicates a perspective of the sensor relative to the scene; determining a footprint of the sensor relative to a coordinate system associated with a reference image database and a digital elevation database, the footprint including at least a portion of the scene in the sensor image;...”*

See, e.g., paragraphs 12, 13, 35 and 48-69; Fig. 1, elements 14, 16, 18, 20, 22; Fig. 2 and 3; paragraph 104; Fig. 5, elements 101 and 103.

*“...accessing the digital elevation database to obtain a reference digital elevation model geocoded in the coordinate system and whose geographic extent encompasses an area that includes the sensor footprint; accessing the reference image database to obtain a reference image geocoded in the coordinate system and that encompasses an area that includes the sensor footprint;...”*

See, e.g., paragraphs 36, 45, 69, 70; Fig. 1, elements 28, 40, 26, 30, 42; paragraph 105; Fig. 5, elements 104 and 105.

*“... generating a synthetic 3-D model of an area around a center of the scene by combining the geocoded reference digital elevation model and the geocoded reference image such that each pixel of the geocoded reference image is associated with an elevation from the geocoded reference digital elevation model;...”*

See, e.g., paragraphs 70-74; Fig. 1, elements 44, 46, 48; paragraph 106; Fig. 5, elements 106, 107.

*“...transforming the synthetic 3-D model into a synthetic perspective image of the scene, the transforming based on a type of the sensor and the at least one sensor parameter;...”*

See, e.g., paragraph 75; Fig. 4; paragraphs 75-98; paragraphs 107-109; Fig. 5, elements 108, 109.

*“...and registering the sensor image of the scene with the synthetic perspective image to geocode the sensor image using a mutual information model;...”*

See, e.g., paragraph 99-101; Fig. 4; paragraph 110-112; Fig. 5, elements 110, 111, 112, 113, 114.

Claim 27 is supported, for example, in paragraph 75; Fig. 1, element 54; Fig. 4; paragraphs 75-98; paragraphs 107-109; Fig. 5, elements 108, 109. Applicant respectfully submits that pinhole cameras and pinhole camera models are well known in the art.

Claim 29 is supported, for example, in paragraphs 75-101; Fig. 4; Fig. 1, elements 50, 52, 54, 56, 58, 60 and 62.

Claim 40 is also amended and supported in the disclosure, for example, at paragraphs 30, 46, and 71; Fig. 1, element 28.

Applicant respectfully resubmits that the claims are supported in the disclosure.

## **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7500.

Respectfully submitted,

Dated: 4 June, 2009

By:   
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